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PATENT SPECIFICATION

DRAWINGS ATTACHED

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Recherche

COMPLETE SPECIFICATION

Improvements in Television Receivers

We, GENERAL ELECTRIC COMPANY of 1 River Road, Schenectady, New York, United States of America; a corporation organised and existing under the laws of the State of New York, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention is directed toward television receivers and more specifically toward an improved magnetic shield for the cathode ray tube of such receivers.

Color cathode ray tubes are found to be sensitive to spurious magnetic fields which exist in the vicinity of the tube. Thus, magnetic shielding of the tube is necessary to prevent erratic operation which would otherwise be produced by ambient magnetic fields such as the earth's field and spurious fields developed by transformers, motors, etc. However, since the cathode ray tube must be rigidly mounted to the receiver cabinet the presence of a magnetic shield often unduly complicates the apparatus whereby the tube is mounted.

The prior art approaches toward these two somewhat inconsistent considerations have not proven completely satisfactory. Generally, the prior art has required the use of a relatively large and expensive shielding member surrounding the cathode ray tube in conjunction with a completely discrete mounting apparatus for mounting the tube with the shield positioned thereon.

The present invention presents an improved apparatus for both magnetically shielding and mounting a cathode ray tube.

According to the present invention there is provided a television receiver including a cabinet having positioned therein a cathode

ray tube including a tapered funnel portion, and a magnetic shielding member surrounding the funnel portion of the cathode ray tube in engagement therewith, said magnetic shielding member including mounting means positioned thereon, and means positioned on said cabinet for engaging the mounting means of said magnetic shielding member to mount the cathode ray tube to the cabinet.

In one embodiment of the invention a magnetic shield of a generally truncated pyramidal shape is used. The shield is preferably formed from sheet metal so as to conform generally to the funnel portion of the cathode ray tube and is provided with a plurality of spaced outwardly extending mounting tabs. A plurality of mounting brackets are provided, each mounting bracket being affixed to the front of the receiver cabinet and having a plurality of mounting slots therein. One such mounting bracket is associated with each mounting tab of the magnetic shield in such a manner that the mounting tab is received by a mounting slot in the bracket. In this manner the magnetic shield serves to mount the cathode ray tube, the dimensions of the magnetic shield with respect to the cathode ray tube being such that the magnetic shield urges the face plate of the cathode ray tube against a suitable portion of the front of the receiver cabinet.

In accordance with a preferred embodiment of the invention the magnetic shield is formed in two essentially identical sections having holes therein adapted to receive rivets for joining the two sections together. Extra holes are provided in one part of the shield to allow for adjustment of the shield size to compensate for tube size variations. Similarly, the mounting brackets are provided with a plurality of mounting slots for adjustment purposes in order to compensate for tube size

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variations and insure the requisite rigid mount. Reference should now be made to the accompanying drawings in which:

Figure 1 is a perspective view of the magnetic shield in accordance with the invention,

Figure 2 is a partial side sectional view of a television receiver including a cathode ray tube mounted through the use of the magnetic shield of Figure 1, and

Figure 3 is a rear view of the apparatus shown in Figure 2.

Referring to Figure 1, there is shown generally at 1 a magnetic shield in accordance with the invention, the shield having a generally truncated pyramidal shape. Preferably, the shield 1 of the invention is stamped from sheet metal in two essentially identical sections 3 and 5.

Section 3 of the shield 1 is assembled to section 5 through the use of rivets 7 passing through suitable holes in each of the sections to complete the assembly. Extra rivet receiving holes 9 are provided to allow adjustment of the shield size to compensate for variations in tube size, the rivets 7 being received by the holes 9 when a smaller cross-section shield is required.

The magnetic shield 1 is further provided with a plurality of outwardly extending mounting tabs 11, one such mounting tab being positioned at each corner of the shield 1 and preferably being formed by a simple lancing operation.

A plurality of mounting brackets generally shown at 13 is provided, one such mounting bracket being associated with each mounting tab 11 of the magnetic shield 1. Each mounting bracket 13 comprises a flat strap portion 15 having an upturned end 17. The upturned end 17 is provided with a plurality of screw receiving holes 19, these holes being adapted to receive screws for mounting the bracket to the receiver cabinet. The flat strap portion 15 is provided with a plurality of spaced mounting slots 21, each slot being adapted to receive the associated mounting tab 11. Through the use of a plurality of slots in this manner, a suitable slot may be selected to receive the mounting tab 11 to provide mounting of a particular cathode ray tube even though the dimensions of such tubes vary rather widely.

Referring to Figures 2 and 3 there is shown generally at 23 a cathode ray tube mounted through use of the magnetic shield 1 of Figure 1. The cathode ray tube 23 comprises a neck portion 25, a funnel portion 27 and a face plate portion 29. As depicted the magnetic shield 1 is utilized for mounting the cathode ray tube 23 within a television receiver cabinet including a top portion 31 and a front portion 33. The front portion 33 includes a

seat 35 for the face plate 29 of the mounted cathode ray tube 23 and is provided with a plurality of inwardly extending screw receiving bosses 37.

As depicted, the assembled magnetic shield 1 is positioned about the funnel portion 27 of the cathode ray tube. The mounting brackets 13 are assembled to the associated bosses 37 through the use of suitable screws 39 after the mounting tabs 11 have been inserted in the appropriate slot 21. In this manner, the shield exerts a force on the funnel portion of the cathode ray tube which urges the cathode ray tube into firm abutment with the seat 35 and a rigid mount is achieved in inexpensive and reliable fashion.

Thus, in accordance with the invention a magnetic shield serves to both shunt spurious magnetic fields away from the cathode ray tube and provide the sole means by which the tube is mounted.

WHAT WE CLAIM IS:—

1. A television receiver including a cabinet having positioned therein a cathode ray tube including a tapered funnel portion, and a magnetic shielding member surrounding the funnel portion of the cathode ray tube in engagement therewith, said magnetic shielding member including mounting means positioned thereon, and means positioned on said cabinet for engaging the mounting means of said magnetic shielding member to mount the cathode ray tube to the cabinet.

2. A television receiver as claimed in claim 1, wherein the magnetic shielding member consists of a generally truncated pyramidal shaped sheet metal member surrounding and generally conforming to the funnel portion of the cathode ray tube in engagement therewith, said sheet metal member including a plurality of outwardly extending mounting tabs, and a plurality of slotted mounting brackets mounted on said cabinet with the slot in each of said brackets receiving one of said mounting tabs to mount the cathode ray tube to the cabinet.

3. A television receiver as claimed in Claim 2, wherein each of said mounting brackets is provided with a plurality of spaced slots therein, a particular one of the slots being selected to receive the associated mounting tab in accordance with the size of the cathode ray tube to be mounted.

4. A television receiver as claimed in Claim 2 wherein said sheet metal member comprises two essentially identical sheet metal portions connected together to form said truncated pyramidal shape.

5. A television receiver as claimed in Claim 3 wherein said sheet metal portions are riveted together.

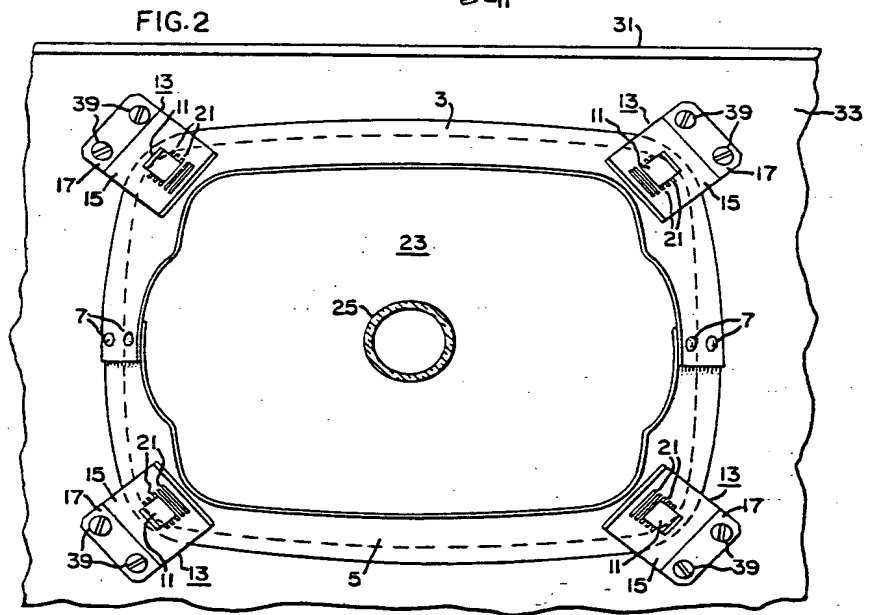
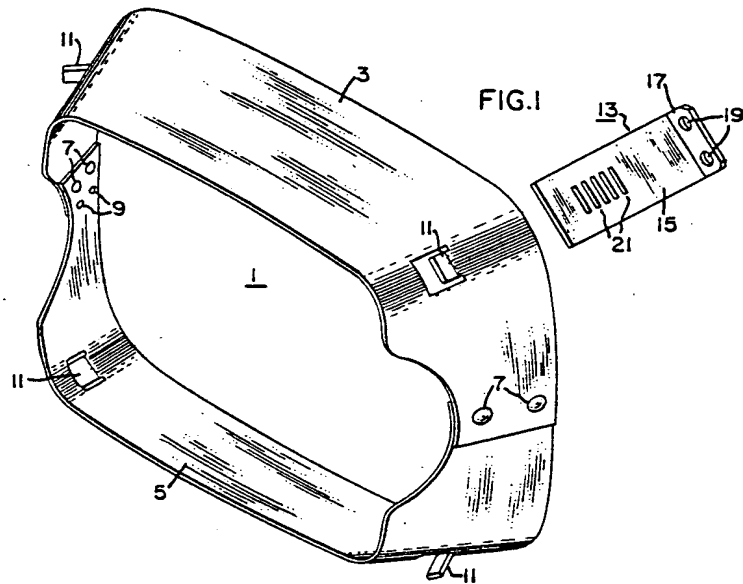
6. A television receiver substantially as described with reference to the accompanying drawings.

POTTS, KERR & O'BRIEN.

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2 SHEETS

*This drawing is a reproduction of
the Original on a reduced scale*

Sheets 1 & 2

FIG. 3

